

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (currently amended): A metabolite produced by a biologically pure *Streptomyces* sp. strain selected from a *Streptomyces* sp. strain having all the identifying characteristics of the strain deposited with NRRL with Accession No. B-30145; and mutants of the strain deposited with NRRL with Accession No. B-30145, wherein the mutants have all the identifying characteristics of NRRL No. B-30145; and wherein the metabolite is in a non-naturally occurring environment and exhibits activity against plant pathogenic fungi.

Claim 2 (currently amended): The metabolite of claim 1 or claim 40, wherein the metabolite has a molecular weight $[M+H]^+$ between ~~about 925 and~~ about 865 Daltons and about 925 Daltons.

Claim 3 (currently amended): The metabolite of claim 2, wherein the metabolite has the molecular weight ~~is selected from the group consisting of~~ about 866.5 Daltons, about 882.5 Daltons, about 898.4 Daltons, about 892.5 Daltons, about 908.5 Daltons and about 924.5 Daltons.

Claim 4 (currently amended): The metabolite of claim 1 or claim 40, wherein the metabolite is heat and base stable, is acid labile and has a molecular weight $[M+H]^+$ between about 865 Daltons and about 925 Daltons.

Claim 5 (currently amended): The metabolite of claim 4, wherein the metabolite has the molecular weight ~~is selected from the group consisting of~~ about 866.5 Daltons, about 882.5 Daltons, about 898.4 Daltons, about 892.5 Daltons, about 908.5 Daltons and about 924.5 Daltons.

Claim 6 (previously amended): The metabolite of claim 1 or claim 40, wherein the metabolite is contained in a metabolite containing fraction of a whole broth culture of the *Streptomyces* sp. strain of claim 1 or claim 40 and the metabolite containing fraction has a chromatogram at 220 nm and under the conditions described for Figure 3 having one or more peaks with positions and relative intensities approximately equal to the positions and relative intensities of the peaks shown in Figure 3.

Claim 7 (previously amended): The metabolite of claim 1 or claim 40, wherein the metabolite exhibits UV absorption between about 215 nm and about 220 nm.

Claim 8 (previously amended): The metabolite of claim 1 or claim 40, wherein the metabolite is contained in a metabolite containing fraction of a whole broth culture of the *Streptomyces* sp. strain of claim 1 or claim 40 and the metabolite containing fraction has a ^1H Nuclear Magnetic Resonance spectrum under the conditions described for Figure 4 having one or more peaks with positions and relative intensities approximately equal to the positions and relative intensities of the peaks shown in Figure 4.

Claim 9 (previously amended): The metabolite of claim 1 or claim 40, wherein the metabolite is contained in a metabolite containing fraction of a whole broth culture of the *Streptomyces* sp. strain of claim 1 or claim 40 and the metabolite containing fraction has a ^{13}C Nuclear Magnetic Resonance spectrum under the conditions described for Figure 5 having one or more peaks with positions and relative intensities approximately equal to the positions and relative intensities of the peaks shown in Figure 5.

Claim 10 (previously amended): The metabolite of claim 1 or claim 40, wherein the metabolite comprises one or more chemical moieties selected from the group consisting of an oxygenated methine carbon and a sugar moiety.

Claim 11 (cancelled)

Claim 12 (previously amended): A composition comprising the metabolite of claim 1 or claim 40, and a carrier.

Claim 13 (previously amended): A composition comprising more than one metabolite of claim 1 or claim 40 and a carrier.

Claim 14 (original): The composition of claim 12, further comprising at least one chemical or biological pesticide.

Claim 15 (original): The composition of claim 13, further comprising at least one chemical or biological pesticide.

Claim 16 (currently amended): The composition of any one of claims 12-15, wherein the composition is formulated as a formulation selected from the group consisting of a wettable powder formulation, a granule formulation, an aqueous suspension, an emulsifiable concentrate, and a microencapsulated formulation.

Claim 17 (cancelled)

Claim 18 (previously amended): A method for protecting or treating plants, fruit, and roots from a fungal infection comprising applying an effective amount of the metabolite of claim 1 or claim 40 to the plant, fruit or root.

Claim 19 (previously amended): The method of claim 18, wherein the fungal infection is caused by a fungus selected from the group consisting of *Alternaria solani*, *Botrytis cinerea*, *Rhizoctonia* sp., *Sclerotinia* sp., and *Phytophthora* sp.

Claim 20 (currently amended): The method of claim 18, further comprising applying an effective amount of one or more additional metabolites of claim 1 or claim 40 to the plant, root, or fruit.

Claim 21 (currently amended): The method of claim 18, wherein the metabolite has a molecular weight $[M+H^+]$ between about 865 Daltons and about 925 Daltons ~~and about 865~~.

Claim 22 (currently amended): The method of claim 21, wherein the molecular weight of the metabolite is selected from the group consisting of about 866.5 Daltons, about 882.5 Daltons, about 898.4 Daltons, about 892.5 Daltons, about 908.5 Daltons and about 924.5 Daltons.

Claim 23 (currently amended): The method of claim 18, wherein the metabolite is heat and base stable, is acid labile and has a molecular weight $[M+H^+]$ between about 865 Daltons and about 925 Daltons ~~and about 865~~.

Claim 24 (currently amended): The method of claim 23, wherein the metabolite has the molecular weight ~~is~~ selected from the group consisting of about 866.5 Daltons, about 882.5 Daltons, about 898.4 Daltons, about 892.5 Daltons, about 908.5 Daltons and about 924.5 Daltons.

Claim 25 (previously amended): The method of claim 18, wherein the metabolite is contained in a metabolite containing fraction of a whole broth culture of the Streptomyces sp. strain of claim 1 or claim 40 and the metabolite containing fraction has a chromatogram at 220 nm and under the conditions described for Figure 3 having one or more peaks with positions and relative intensities approximately equal to the positions and relative intensities of the peaks shown in Figure 3.

Claim 26 (previously amended): The method of claim 18, wherein the metabolite exhibits UV absorption between about 215 nm and about 220 nm.

Claim 27 (previously amended): The method of claim 18, wherein the metabolite is contained in a metabolite containing fraction of a whole broth culture of the Streptomyces sp. strain of claim 1 or claim 40 and the metabolite containing fraction has a ^1H Nuclear Magnetic Resonance spectrum under the conditions described for Figure 4 having one or more peaks with positions and

relative intensities approximately equal to the positions and relative intensities of the peaks shown in Figure 4.

Claim 28 (previously amended): The metabolite of claim 18, wherein the metabolite is contained in a metabolite containing fraction of a whole broth culture of the *Streptomyces* sp. strain of claim 1 or claim 40 and the metabolite containing fraction has a ^{13}C Nuclear Magnetic Resonance spectrum under the conditions described for Figure 5 having one or more peaks with positions and relative intensities approximately equal to the positions and relative intensities of the peaks shown in Figure 5.

Claim 29 (previously amended): The method of claim 18, wherein the metabolite is applied as a formulation selected from the group consisting of a wettable powder formulation, a granule formulation, an aqueous suspension, an emulsifiable concentrate and a microencapsulations formulation.

Claim 30 (original): The method of claim 29, further comprising applying an effective amount of at least one chemical or biological pesticide.

Claim 31 (currently amended): The method of claim 29, wherein the formulation comprises more than one metabolite of claim 1 or claim 40.

Claim 32 (withdrawn): An antifungal composition comprising a metabolite produced by *Streptomyces* and isolated according to a method comprising:

(a) loading a whole broth culture of *Streptomyces* sp. strain NRRL No. B-30145 or mutants thereof that have all the identifying characteristics of NRRL No. B-30145 onto a non-ionic absorbent polymeric resin;

(b) eluting the metabolite with an alcohol;

(c) screening the eluent of step (b) with a bioassay for fractions of the eluent exhibiting antifungal activity;

(d) loading the fractions of the eluent exhibiting antifungal activity of step (c) on a HPLC column; and

(e) eluting the metabolite with an organic solvent, to produce the antifungal composition.

Claim 33 (withdrawn): The composition of claim 32, wherein the eluent of step (b) is methanol or a gradient of aqueous methanol.

Claim 34 (withdrawn): The composition of claim 32, wherein the bioassay of step (c) is selected from the group consisting of the agar diffusion assay or slide germination assay.

Claim 35 (withdrawn): The composition of claim 32, wherein the organic solvent of step (e) is an acetonitrile--water gradient.

Claim 36 (withdrawn): A method for protecting or treating a plants, fruit, or root from fungal infections comprising applying an effective amount of the composition of claim 32 to the plant, fruit or root.

Claim 37 (withdrawn): The method of claim 36, wherein the fungal infections are caused by a fungus selected from the group consisting of *Alternaria solani*, *Botrytis cinerea*, *Rhizoctonia* sp., *Sclerotinia* sp., and *Phytophthora* sp.

Claim 38 (withdrawn): The method of claim 36, wherein the composition further comprises formulation selected from the group consisting of a wettable powder, granules, an aqueous suspension, an emulsifiable concentrate, and a microencapsulations.

Claim 39 (withdrawn): The method of claim 36, further comprising applying an effective amount of at least one chemical or biological pesticide.

Claim 40 (currently amended): The metabolite ~~Streptomyces sp. strain~~ of claim 1, wherein the isolated Streptomyces sp. strain is the Streptomyces sp. strain having all the identifying characteristics of the strain deposited with NRRL with Accession No. B-30145.